Fall 2018 Levee Maintenance Deficiency Summary Report

Overall LMA & Unit Ratings, including DWR Erosion Survey

San Joaquin River Basin

RD2096	Overall LMA Rating	Total LMA Miles						
Reclamation District No. 2096 Wetherbee Lake	A	0.16						
			Enforc	ement	Design &			
Rated Item	M Miles	U Miles	M + 4U Miles	Threshold %	M Miles	U Miles		
Earthen Levee								
Encroachments					0.01			
Slope Stability	0.01		0.01	6.07%				
Supplemental								
DWR UCIP Field Study					0.01			
LMA Totals:	0.01	0.00	0.01	6.07%	0.02	0.00	0.00	0.00
Unit No. 01 San Joaquin River RB Overall Unit Rating Miles								
Unit No. 01 San Joaquin River RB	Overall Unit Rating	Total Unit Miles						
Unit No. 01 San Joaquin River RB								
RD2096	Rating	Miles 0.16	nce Deficiency		Enforc	ement	Design 8 Obsole	
·	Rating	Miles 0.16	nce Deficiency M + 4U Miles	Threshold %	Enforce M Miles			
RD2096	Rating A	Miles 0.16 Maintena	, , , , , , , , , , , , , , , , , , , ,	Threshold %			Obsole	scence
RD2096 Rated Item	Rating A	Miles 0.16 Maintena	, , , , , , , , , , , , , , , , , , , ,	Threshold %			Obsole	scence
RD2096 Rated Item Earthen Levee	Rating A	Miles 0.16 Maintena	, , , , , , , , , , , , , , , , , , , ,	Threshold %	M Miles		Obsole	scence
RD2096 Rated Item Earthen Levee Encroachments Slope Stability Supplemental	Rating A M Miles	Miles 0.16 Maintena	M + 4U Miles		M Miles		Obsole	scence
RD2096 Rated Item Earthen Levee Encroachments Slope Stability	Rating A M Miles	Miles 0.16 Maintena	M + 4U Miles		M Miles		Obsole	scence

Winter **

Flood Control Project Maintenance Levee Inspections

LMA District Cover Sheet

Fall 2018 Levee Inspection Results

Reclamation District No. 2096 Wetherbee Lake

Summer **

Spring

Fall

	(March - May)	(June - August)	(September - November)	(December - February)
† Overall LMA Rating (Fall Only)			Α	
	** Non-receipt of Summ Reports may effect or			
FALL INSPECTIONS: The overall maintena	d using the same crite ance rating shown abo	ria in the spring and in ve is based on operati	the fall.	ficiencies identified
Comments				

Unit Cover Sheet

Fall 2018 Levee Inspection Results

Reclamation District No. 2096 Wetherbee Lake

Waterway	Bank	Unit Miles
Unit No. 01 San Joaquin River	Right	0.16

	Spring (March - May)	Summer (June - August)	(September - November) Fall	Winter (December - February)
Unit Maintenance Rating (Fall Only)			Α	
Date of Inspection	3/13/2018 - 3/13/2018		11/9/2018 - 11/9/2018	
DWR Inspector	Maksim Khashchuk		Richard Willoughby	
Accompanied By	Randy Barker RD 2096		Randy Barker RD 2096	

Summer & Winter Inspections

The Local Maintaining Agency (LMA) is responsible for summer and winter inspections. The LMA is required to submit a report regarding summer and winter inspections to the California Department of Water Resources (DWR).

DWR must be informed on the:

- a) completion of the inspection
- b) any changes other than the results of normal maintenance
- c) corrections to deficiencies noted in this report

If additional items are noted, further documentation of those items must also be submitted.

The LMA should submit this information to DWR using the LMA web application tool available at:

http://cdec.water.ca.gov/lma.html

If the LMA is unable to submit information on this webpage, please contact DWR for assistance.

The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2096 Wetherbee Lake

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River	Right	0.16	11/09/2018 11/09/2018	Richard Willoughby

1110		Poting **	Λ	Issue No.			-
LM Start		Rating **	Α	issue ivo.		1	
LM End		Issue Type +	Ma	Location *		N/A	
Category	Earthen L	evee		GPS La	atitude	e/Longitude	
Category				Start		End	
Item		s & Maintena	nce		0		0
item	Manuals				0		0
DWR ID	DWR_RD2	096_01_s _ 201	3_1				
		Comn	nent Cod	de			
		Inspecto	or Comm	nent			
O&M Manı	ual is at the	e LMA's office	١.				\neg

No Photos

LM Start		Rating **	Α	Issue No.		2	
LM End		Issue Type +	Ma	Location *		N/A	
Category	Earthen L	evee		GPS La	atituc	de/Longitude	
Category				Start		End	
Item		y Supplies &			0		0
пеш	Equipmen	nt			0		0
DWR ID	DWR_RD2	096_01_s _ 201	3_2				
		Comn	nent Cod	de			

Inspector Comment

No Photos

LM Start		Rating **	Α	Issue No.		4	
LM End		Issue Type +	Ma	Location *		N/A	
Category	Earthen Levee			GPS La	atitud	le/Longitude	
Calegory				Start		End	
Item	Flood Pre	paredness &	Training		0		0
пеш					0		0
DWR ID	DWR_RD2	096_01_s _ 201	3_4				
		Comn	nent Cod	le			

No Photos

Inspector Comment

LMA has a flood response plan in the office. It is recommended that the LMA and interested local volunteers take a flood fight training class in order to refresh their flood fight skills and methods.

* Location LS : Land Side N/A: Not Applicable WS: Water Side

Emergency supplies available.

A : Acceptable M : Minimally Acceptable U : Unacceptable

N : Not Inspected/Rated C : Corrected

+ Issue Type Ma : Maintenance Deficiency
Ob : Design & System Obsolescence

En: Enforcement

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2096 Wetherbee Lake

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River	Right	0.16	11/09/2018 11/09/2018	Richard Willoughby

LM Start	0.00	Rating **	Α	Issue No.		12
LM End	0.16	Issue Type +	Ma	Location *		LS
Category	Earthen L	evee		GPS La	atitud	e/Longitude
Calegory				Start		End
Item	Vegetatio	n		37.7738	52°	37.771832°
пеш				-121.2984	14°	-121.298378°
DWR ID	DWR_RD2	096_01_f _ 201	8_12			
		Comn	nent Cod	de		
V1 : Contre easements		rass and wee	eds on th	e levee slop	oes a	and
		Inspecto	or Comm	nent		



Looking at typical view of landward slope. (Fall 2018)

LM Start	0.00	Rating **	Α	Issue No.		14	
LM End	0.16	Issue Type +	Ма	Location *		WS	
Category	Earthen Levee				atitud	e/Longitude	
Calegory				Start		End	
Item	Vegetatio	n		37.7738	52°	37.771832°	
item					14 °	-121.298378°	
DWR ID	DWR_RD2096_01_f _ 2018_14						
	Comment Code						

V1: Control annual grass and weeds on the levee slopes and easements.

Inspector Comment

Photo 1 of 1: FA_2018_RD2096_117_14_20181119_00019.jpg



Looking at typical view of waterward slope. (Fall 2018)

CR : Crown

N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain + Issue Type Ma : Maintenance Deficiency
Ob : Design & System Obsolescence

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2096 Wetherbee Lake

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River	Right	0.16	11/09/2018 11/09/2018	Richard Willoughby

LM Start	0.02	Rating **	A/W	Issue No.		15
LM End	0.02	Issue Type +	Ма	Location *		
Category	Suppleme	ental		GPS Lat	itud	e/Longitude
Calegory				Start		End
Item	DWR UCI	P LMA Respo	onsibility	37.77385	2 °	37.773852°
пеш				-121.29841	3°	-121.298413 °
DWR ID	22737					

Inspector Comment

Comment Code

FS_ID:21505 DS_ID:22737 EP_NO: N/A

Repair Type: No Action Needed Crossing Status: Found

UCIP Comments: - steel walkway to pump platform.- pumping plant and navigation structure area is fenced with gates at north and south

FIELD_STRUCT_DESC: 1 of 3: 36-inch drainage discharge pipe of an unknown material through the levee, 3.5 feet below the crown. One concrete cutoff wall. Automatic pumping plant and concrete sump on the landside (LS). Vent pipes on the waterside (WS) shoulder. Concrete headwall and spill box on the WS. Flap gate on the WS end. [Additional Reference(s): DWR Levee Log, 2005. USACE San Joaquin O&M Manual 3, December 1968, (HLM 0.03)].

LM Start	0.02	Rating **	A/W	Issue No.	15 (cont)
LM End	0.02	Issue Type +	Ma	Location *	



WS view: three wooden flap gates for drainage pipes. Concrete headwall at levee slope end.

Photo 2 of 3: UCIP_FA_2018_21505_36448.jpg



WS view: three air vents for three drainage pipes on levee shoulder.

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2096 Wetherbee Lake

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River	Right	0.16	11/09/2018 11/09/2018	Richard Willoughby

LM Start	0.02	Rating **	A/W	Issue No.		15 (cont)
LM End	0.02	Issue Type +	Ма	Location *		
Category	Suppleme	ental		GPS La	titud	e/Longitude
Calegory				Start		End
Item	DWR UCI	P LMA Respo	onsibility	37.7738	52 °	37.773852°
пеш				-121.2984 ⁻	ı3°	-121.298413°
DWR ID	22737					

Inspector Comment

Comment Code

FS_ID:21505 DS_ID:22737 EP_NO: N/A

Repair Type: No Action Needed Crossing Status: Found

UCIP Comments: - steel walkway to pump platform.- pumping plant and navigation structure area is fenced with gates at north and south

FIELD_STRUCT_DESC: 1 of 3: 36-inch drainage discharge pipe of an unknown material through the levee, 3.5 feet below the crown. One concrete cutoff wall. Automatic pumping plant and concrete sump on the landside (LS). Vent pipes on the waterside (WS) shoulder. Concrete headwall and spill box on the WS. Flap gate on the WS end. [Additional Reference(s): DWR Levee Log, 2005. USACE San Joaquin O&M

Manual 3, December 1968, (HLM 0.03)].



LS view: automatic pumping plant with three pumps. Steel walkway to pump platform.

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2096 Wetherbee Lake

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River	Right	0.16	11/09/2018 11/09/2018	Richard Willoughby

LM Start	0.02	Rating **	A/W	Issue No.		16	
LM End	0.02	Issue Type +	Ма	Location *			
Category	Suppleme	ental		GPS Lati	tud	e/Longitude	
Calegory				Start		End	
Item	DWR UCI	P LMA Respo	nsibility	37.77383	5°	37.773835	0
пеш				-121.29841	°	-121.298419	0
DWR ID	22740						

Inspector Comment

Comment Code

FS_ID:21507 DS_ID:22740 EP_NO: N/A

Repair Type: No Action Needed Crossing Status: Found

UCIP Comments: - steel walkway to pump platform.- pumping plant and navigation structure area is fenced with gates at north and south

FIELD_STRUCT_DESC: 2 of 3: 36-inch drainage discharge pipe of an unknown material through the levee, 3.5 feet below the crown. One concrete cutoff wall. Automatic pumping plant and concrete sump on the landside (LS). Vent pipes on the waterside (WS) shoulder. Concrete headwall and spill box on the WS. Flap gate on the WS end. [Additional Reference(s): DWR Levee Log, 2005. USACE San Joaquin O&M Manual 3, December 1968, (HLM 0.03)].

LM Start	0.02	Rating **	A/W	Issue No.	16 (cont)
LM End	0.02	Issue Type +	Ma	Location *	



WS view: three wooden flap gates for drainage pipes. Concrete headwall at levee slope end.

Photo 2 of 3: UCIP_FA_2018_21507_36455.jpg



WS view: three air vents for three drainage pipes on levee shoulder.

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2096 Wetherbee Lake

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River	Right	0.16	11/09/2018 11/09/2018	Richard Willoughby

LM Start	0.02	Rating **	A/W	Issue No.		16 (cont)	
LM End	0.02	Issue Type +	Ма	Location *			
Category	Suppleme	ental		GPS La	tituc	le/Longitude	
Calegory				Start		End	
Item	DWR UCI	IP LMA Respo	onsibility	37.77383	35 °	37.773835	0
пеш				-121.2984	19°	-121.298419	0
DWR ID	22740						

Comment Code

Inspector Comment

FS_ID:21507 DS_ID:22740 EP_NO: N/A

Repair Type: No Action Needed Crossing Status: Found

UCIP Comments: - steel walkway to pump platform.- pumping plant and navigation structure area is fenced with gates at north and south

FIELD_STRUCT_DESC: 2 of 3: 36-inch drainage discharge pipe of an unknown material through the levee, 3.5 feet below the crown. One concrete cutoff wall. Automatic pumping plant and concrete sump on the landside (LS). Vent pipes on the waterside (WS) shoulder. Concrete headwall and spill box on the WS. Flap gate on the WS end. [Additional Reference(s): DWR Levee Log, 2005. USACE San Joaquin O&M Manual 3, December 1968, (HLM 0.03)].



LS view: automatic pumping plant with three pumps. Steel walkway to pump platform.

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2096 Wetherbee Lake

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River	Right	0.16	11/09/2018 11/09/2018	Richard Willoughby

LM Start	0.03	Rating **	A/W	Issue No.		17	
LM End	0.03	Issue Type +	Ма	Location *			
Category	Suppleme	ental		GPS Lat	itud	e/Longitude	
Calegory				Start		End	
Item	DWR UCI	P LMA Respo	nsibility	37.77381	8°	37.773818	0
пеш				-121.29842	3°	-121.298423	0
DWR ID	22739						

Inspector Comment

Comment Code

FS_ID:21508 DS_ID:22739 EP_NO: N/A

Repair Type: No Action Needed Crossing Status: Found

UCIP Comments: - steel walkway to pump platform.- pumping plant and navigation structure area is fenced with gates at north and south

FIELD_STRUCT_DESC: 3 of 3: 36-inch drainage discharge pipe of an unknown material through the levee, 3.5 feet below the crown. One concrete cutoff wall. Automatic pumping plant and concrete sump on the landside (LS). Vent pipes on the waterside (WS) shoulder. Concrete headwall and spill box on the WS. Flap gate on the WS end. [Additional Reference(s): DWR Levee Log, 2005. USACE San Joaquin O&M Manual 3, December 1968, (HLM 0.03)].

FS Date: 9/10/2013

LM Start	0.03	Rating **	A/W	Issue No.	17 (cont)
LM End	0.03	Issue Type +	Ma	Location *	



WS view: three wooden flap gates for drainage pipes. Concrete headwall at levee slope end.

Photo 2 of 3: UCIP_FA_2018_21508_36460.jpg



WS view: three air vents for three drainage pipes on levee shoulder.

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2096 Wetherbee Lake

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River	Right	0.16	11/09/2018 11/09/2018	Richard Willoughby

LM Start	0.03	Rating **	A/W	Issue No.		17 (cont)
LM End	0.03	Issue Type +	Ма	Location *		
Category				GPS Latitude/Longitude		
Calegory			Start		End	
Item	DWR UCI	P LMA Respo	onsibility	37.77381	8°	37.773818°
пеш			-121.29842	3 °	-121.298423 °	
DWR ID	22739					

Inspector Comment

Comment Code

FS_ID:21508 DS_ID:22739 EP_NO: N/A

Repair Type: No Action Needed Crossing Status: Found

UCIP Comments: - steel walkway to pump platform.- pumping plant and navigation structure area is fenced with gates at north and south

FIELD_STRUCT_DESC: 3 of 3: 36-inch drainage discharge pipe of an unknown material through the levee, 3.5 feet below the crown. One concrete cutoff wall. Automatic pumping plant and concrete sump on the landside (LS). Vent pipes on the waterside (WS) shoulder. Concrete headwall and spill box on the WS. Flap gate on the WS end. [Additional Reference(s): DWR Levee Log, 2005. USACE San Joaquin O&M Manual 3, December 1968, (HLM 0.03)].

FS Date: 9/10/2013



LS view: automatic pumping plant with three pumps. Steel walkway to pump platform.

LM Start	0.03	Rating **	М	Issue No.		18
LM End	0.03	Issue Type +	En	Location *		
Category	ental	GPS Latitude/Longitude				
Calegory			Start		End	
Item	DWR UCI	IP Field Study		37.77380	0°	37.773800°
пеш			-121.29842	8 °	-121.298428°	
DWR ID	24666					

Comment Code

Inspector Comment

FS_ID:21506 DS_ID:24666 EP_NO: N/A

Repair Type: Non-Urgent Crossing Status: Found

UCIP Comments: - more information needs to be find from LMA/DWR Inspector for this crossing. - needs to find whether this pipe passes through the levee.

FIELD_STRUCT_DESC: 4-inch steel pipe of an unknown purpose through the levee and to the pump platform, 3 feet below the crown. It is an element of the pumping plant. Field study discovered utility crossing. FS Date: 9/10/2013

Photo 1 of 2: UCIP_FA_2018_21506_36453.jpg



LS view: 4-inch steel pipe (right) through the levee and to pump platform.

*Location
LS: Land Side N/A: Not Applicable
WS: Water Side
CR: Crown

** Rating
A: Acceptable
N: Not Inspected/Rated
M: Not Inspected/Rated
C: Corrected
M: Minimally Acceptable
C: Corrected
D: Unacceptable
A/W: Acceptable but Monitor & Maintain

** Rating
A: Issue Type
Ma: Maintenance Deficiency
Ob: Design & System Obsolescence
En: Enforcement

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2096 Wetherbee Lake

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River	Right	0.16	11/09/2018 11/09/2018	Richard Willoughby

LM Start	0.03	Rating **	М	Issue No.		18 (cont)	
LM End	0.03	Issue Type +	En	Location *			
Category				GPS Latitude/Longitude			
Calegory				Start		End	
Item	DWR UCI	IP Field Study		37.77380	0°	37.773800°	
пеш			-121.29842	8°	-121.298428°		
DWR ID	24666						

Inspector Comment

Comment Code

FS_ID:21506 DS_ID:24666 EP_NO: N/A

Repair Type: Non-Urgent Crossing Status: Found

UCIP Comments: - more information needs to be find from LMA/DWR Inspector for this crossing. - needs to find whether this pipe passes

through the levee.

FIELD_STRUCT_DESC: 4-inch steel pipe of an unknown purpose through the levee and to the pump platform, 3 feet below the crown. It is an element of the pumping plant. Field study discovered utility crossing.

FS Date: 9/10/2013



LS view: closer view of 4-inch steel pipe (left) through the levee and to pump platform.

LM Start	0.05	Rating **	С	Issue No.		8	
LM End	0.05	Issue Type +	En	Location *		LS	
Category	Earthen L	GPS Latitude/Longitude					
Category				Start		End	
Item	Encroachments		37.7734	79°	37.773479	0	
item			-121.29848		·86 °	-121.298486	0
DWR ID	DWR_RD2	096_01_f _ 201	3_8				
		Comn	nent Cod	de			
PO : Pole							
		Inspecto	or Comm	nent			
Two teleph	Two telephone poles at landside levee toe.						

No Photos

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2096 Wetherbee Lake

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River	Right	0.16	11/09/2018 11/09/2018	Richard Willoughby

LM Start	0.06	Rating **	N	Issue No.		9	
LM End	0.06	Issue Type +	Ma	Location *		LS	
Category Earthen Levee				GPS La	atitud	le/Longitude	
Category	egory					End	
Item	Trim / Thin Trees			37.7733	48°	37.773348°	
пеш				-121.2984	75°	-121.298475 °	
DWR ID	DWR_RD2	096_01_s _ 201	4_9				
		Comn	nent Cod	de			
T5 : Tree stumps.							
	Inspector Comment						

Photo 1 of 1 : FA_2018_RD2096_117_9_20180906_00003.jpg



View of the tree stump at the landside levee toe.

LM Start	0.08	Rating **	М	Issue No.		13	
LM End	0.08	Issue Type + En		Location *	LS		
Catagory	evee	GPS La	atitud	e/Longitude			
Category				Start		End	
Item	Encroachi	ments		37.7730	21 °	37.773021 °	>
пеш				-121.2984	30°	-121.298430 °	,
DWR ID	ID DWR_RD2096_01_s _ 2014_13						

Comment Code

RW: Retaining Wall

Pine tree stump at levee toe.

Inspector Comment

Abut 1 foot by 50 feet retaining wall at levee toe with irrigation and landscaping.

Photo 1 of 1 : FA_2018_RD2096_117_13_20180906_00007.jpg



View of the retaining wall at the landside levee toe.

LM Start	0.09	Rating **	A/W	Issue No.		6	
LM End	0.09	Issue Type +	Ma	Location *		LS	
Category	evee		GPS Latitude/Longitude				
Calegory				Start		End	
Item	Animal Co	ontrol		37.7728	91°	37.772891	0
Item				-121.2984	54°	-121.298454	0
DWR ID	DWR RD2	096 01 s 201	6.6				

Comment Code

A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.

Inspector Comment

LMA has effective rodent control program. Monitor this location for possible future activity.



View of the previously rodent infested area on the landside levee slope.

*Location

LS: Land Side N/A: Not Applicable WS: Water Side CR: Crown

** Rating

A: Acceptable N: Not Inspected/Rated M: Minimally Acceptable C: Corrected Ob: Design & System Obsolescence U: Unacceptable A/W: Acceptable but Monitor & Maintain En: Enforcement

Levee Inspection Report By Mile - Fall 2018

Reclamation District No. 2096 Wetherbee Lake

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 San Joaquin River	Right	0.16	11/09/2018 11/09/2018	Richard Willoughby

LM Start	0.12	Rating **	М	Issue No.	11		
LM End	0.12	Issue Type +	Ма	Location *		WS	
Category Earthen Levee				GPS Latitude/Longitude			
Calegory				Start		End	
Item	Slope Sta	bility		37.7724	34°	37.772434°	
item	n			-121.2984	33 °	-121.298433 °	
DWR ID DWR_RD2096_01_s _ 2015_11							
		0		1.			

Comment Code

S3 : Repair the levee slope damaged by vehicle traffic and prevent access where possible.

Inspector Comment

LMA restricted access but still a regrade and re-compaction of damaged waterside levee slope is required.

LM Start	0.12	Rating **	М	Issue No.	11 (cont)
LM End	0.12	Issue Type +	Ma	Location *	WS



View of the material placed to prevent vehicles from driving around the gate.

Photo 2 of 3: FA_2018_RD2096_117_11_20180906_00005.jpg



Another view of the material placed to prevent vehicles from driving around the gate. Looking downstream.

Photo 3 of 3: FA_2018_RD2096_117_11_20180906_00006.jpg

LM Start	0.12	Rating **	М	Issue No.	11 (cont)
LM End	0.12	Issue Type +	Ma	Location *	WS



View of the waterside slope damaged by vehicle.